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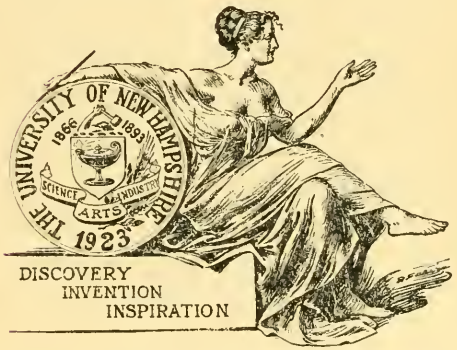

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Bulletin 188 **August, 1918**

NEW HAMPSHIRE
AGRICULTURAL EXPERIMENT STATION
DEPARTMENT OF AGRONOMY

Results of Seed Tests
For 1918

MADE FOR THE
STATE DEPARTMENT OF AGRICULTURE

By F. W. TAYLOR

New Hampshire College
of
Agriculture and the Mechanic Arts
Durham, N. H.

1799

SEED TESTS.

Made July 1, 1917, to July 1, 1918.

The provisions of the Pure Seed Law enacted by the General Court in 1909 require the publication annually of a bulletin showing the results of all seed tests made officially during the previous year. The administration of this law is in the hands of the State Commissioner of Agriculture, who has appointed the writer, Agronomist of the Experiment Station, as his regular agent for making all tests and analyses in this state.

During the year ending July 1, 1918, 280 samples of seed were collected and sent in for analysis by authorized representatives of the Commissioner of Agriculture. These samples were secured from fifty-five dealers, in twenty-six different towns and cities of the state. These samples included 4 of alfalfa, 20 of alsike, 11 of barley, 11 of buckwheat, 24 of corn, 4 of field peas, 41 of millet, 14 of oats, 44 of red clover, 33 of red top, 50 of timothy, 14 of wheat, 3 of white clover, and 7 of miscellaneous seeds.

In the testing and analyzing of seeds, just as in the chemical analysis of fertilizers, it should be remembered that there are certain factors which make exact duplication of results impossible. There are always slight variations in drawing a sample of seed, in sampling the sample, and in weighing small fractional parts of it; there may be also fluctuations in the temperature and humidity of the germinating chamber which may affect the percentage of germination. Methods of analysis may also vary somewhat. For these reasons a slight variation from the guarantee or standard, or from a previous analysis, should not be considered of consequence.

In publishing the results of this year's samples we have again made use of a table of "tolerance of variation" for purity as given on page 20 of the Proceedings of the Association of Official Analysts for 1916-17, and which seems to afford a very satisfactory method of allowing or tolerating a reasonable variation in purity tests.

After applying the variations as given by the table to the results of our tests we have simply used the following terms instead of stating the actual figures in the tabulations:

"Satisfactory," meaning that the difference between our test and the guarantee is within the variation allowed; "Above," meaning that our test, after allowing for the variation, is above the guarantee; "Below," meaning that our test, after allowing for the variation, is below the guarantee.

In the matter of germination a variation of five per cent. has been allowed in the statement of results and the same terms used as described above for purity.

SEED EXAMINATION, 1918.

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
1333	Red Clover (*Pan American*) Rand, Ball & King Co., Claremont, N. H.	98.3	..	87.5	..
1334	Red Clover (*Mammoth*) Rand, Ball & King Co., Claremont, N. H.	A	98	S	90
1335	Alfalfa (*Honor*) Rand, Ball & King Co., Claremont, N. H.	A	99.5	A	85
1336	Alsike Clover (*Eureka*) Rand, Ball & King Co., Claremont, N. H.	S	98	S	90
1337	Timothy (*Pan American*) Rand, Ball & King Co., Claremont, N. H.	S	99.5	S	90
1338	Red Top (*Pan American*) Rand, Ball & King Co., Claremont, N. H.	93.8	..	93.5	..
1339	Red Top (*Eureka*) Rand, Ball & King Co., Claremont, N. H.	93.4	..	91	..
1340	Timothy (*Gold Medal*) Rand, Ball & King Co., Claremont, N. H.	S	99.7	B	95
1341	Field Corn (*Flint*) Rand, Ball & King Co., Claremont, N. H.	A	98	B	90
1342	Field Peas (*Canada*) Rand, Ball & King Co., Claremont, N. H.	A	98	S	90
1343	Winter Vetch Rand, Ball & King Co., Claremont, N. H.	A	98	B	85
1344	Hungarian Millet Rand, Ball & King Co., Claremont, N. H.	A	97	S	90
1345	Medium Red Clover (*Eureka*) Rand, Ball & King Co., Claremont, N. H.	S	99.5	S	99
1346	Buckwheat (*Japanese*) Rand, Ball & King Co., Claremont, N. H.	S	98	S	90
1347	Barley (*Six-rowed*) Rand, Ball & King Co., Claremont, N. H.	S	98	A	90
1348	Soja Beans Rand, Ball & King Co., Claremont, N. H.	S	98	B	90
1349	Leaming Corn (*Pedigree*) Rand, Ball & King Co., Claremont, N. H.	A	98	B	90
1350	Beardless Barley Rand, Ball & King Co., Claremont, N. H.	A	98	S	90
1358	Timothy (*Pine Tree*) Costello Seed Store, Portsmouth, N. H.	S	99.5	S	95
1362	Alsike (*Eureka*) Annis Grain & Lumber Co., Derry, N. H.	A	97	B	90
1363	Japanese Millet (*Whit. Eck.*) Annis Grain & Lumber Co., Derry, N. H.	A	97	A	80
1364	Hungarian Millet (*Whit. Eck.*) Annis Grain & Lumber Co., Derry, N. H.	S	97	83	..
1365	Red Clover (*Pan American*) Annis Grain & Lumber Co., Derry, N. H.	A	90	S	90
1366	Timothy (*Pan American*) Annis Grain & Lumber Co., Derry, N. H.	S	99.5	S	95
1367	Red Clover (*Whit. Eck.*) W. F. Neal, Derry, N. H.	A	98	S	90
1368	Timothy (*Imperator*) W. F. Neal, Derry, N. H.	S	99	S	90
1369	Red Top (*Whit. Eck.*) W. F. Neal, Derry, N. H.	A	90	S	90
1370	Hungarian Millet (*Whit. Eck.*) W. F. Neal, Derry, N. H.	A	97	B	80
1371	Alsike Clover (*Whit. Eck.*) Bell Hardware Company, Derry, N. H.	A	97	B	90
1372	Japanese Millett (*82624*) Costello Seed Store, Portsmouth, N. H.	S	98	B	96
1373	Timothy (*Pine Tree*) Costello Seed Store, Portsmouth, N. H.	S	99.5	S	95
1374	Alfalfa (*Pine Tree Dakota*) Costello Seed Store, Portsmouth, N. H.	S	99	B	92
1375	Timothy (Bison) Costello Seed Store, Portsmouth, N. H.	A	97	B	94
1376	Alsike Clover (*Kaiser*) Costello Seed Store, Portsmouth, N. H.	A	92	S	85
1377	Red Clover (*Acc*) Costello Seed Store, Portsmouth, N. H.	S	98	S	90
1378	Red Clover (*Imperator*) S. A. Schurman, Portsmouth, N. H.	B	97	S	85
1379	Red Top (*Acc*) Costello Seed Store, Portsmouth, N. H.	S	90	B	93

S—Satisfactory.
A—Above.
B—Below.

SEED EXAMINATION, 1918.—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
1380	OATS (*Whit. Eck.*) S. A. Schurman, Portsmouth, N. H.	S	98	A	90
1381	HUNGARIAN MILLET (*Whit. Eck.*) S. A. Schurman, Portsmouth, N. H.	S	98	S	80
1382	JAPANESE MILLET (*S1799, Whit. Eck.*) S. A. Schurman, Portsmouth, N. H.	98.2	..	85.5	..
1383	BARLEY (*Whit. Eck.*) S. A. Schurman, Portsmouth, N. H.	S	98	A	90
1385	RED CLOVER (*Whit. Eck.*) Bell Hardware Company, Derry, N. H.	S	98	S	90
1386	TIMOTHY (*Whit. Eck.*) Bell Hardware Company, Derry, N. H.	S	99	B	94
1387	RED TOP (*Whit. Eck.*) Bell Hardware Company, Derry, N. H.	A	90	B	90
1388	JAPANESE MILLET (*Whit. Eck.*) Bell Hardware Company, Derry, N. H.	S	97	S	80
1389	RED TOP (*Whit. Eck.*) Annis Grain & Lumber Co., Derry, N. H.	91.58	..	83.5	..
1416	RED TOP (*White Mountain*) Kendall Bros., Charlestown, N. H.	S	95	B	90
1417	LEAMING CORN (*Imp., Page Seed Co.*) Kendall Bros., Charlestown, N. H.	A	90	B	92
1418	ALSIKE CLOVER (*Tower*) Kendall Bros., Charlestown, N. H.	99	..	56	..
1419	HUNGARIAN MILLET (*White Mountain*) Kendall Bros., Charlestown, N. H.	A	97	S	80
1420	FIELD PEAS Kendall Bros., Charlestown, N. H.	100	..	S	92
1421	MEDIUM CLOVER (*White Mountain*) Kendall Bros., Charlestown, N. H.	S	99.5	B	92
1422	SPRING WHEAT (*Marquis*) Kendall Bros., Charlestown, N. H.	99.8	..	92.5	..
1423	CORN (*Early Triumph*) Kendall Bros., Charlestown, N. H.	A	95	B	95
1424	TIMOTHY (*Arrow*) Kendall Bros., Charlestown, N. H.	S	99.1	S	90
1425	RED COB CORN Kendall Bros., Charlestown, N. H.	100	..	77	..
1426	SANFORD CORN (*Page's*) Kendall Bros., Charlestown, N. H.	100	..	30	..
1427	TIMOTHY (*Liberty*) Kendall Bros., Charlestown, N. H.	A	99	S	96.5
1428	BUCKWHEAT (*White Mountain*) Kendall Bros., Charlestown, N. H.	A	99	S	90
1429	HUNGARIAN MILLET (*Monadnock*) Kendall Bros., Charlestown, N. H.	A	95	S	80
1430	TIMOTHY (*White Mountain*) Kendall Bros., Charlestown, N. H.	S	99.8	B	94
1431	BUCKWHEAT Kendall Bros., Charlestown, N. H.	99.55	..	82	..
1432	LEAMING CORN (*Pedigree*) L. W. Gile, Newport, N. H.	A	98	S	90
1433	WHITE SANFORD CORN L. W. Gile, Newport, N. H.	100	..	83	..
1434	EUREKA CORN L. W. Gile, Newport, N. H.	A	90	95	..
1435	OATS (*Western*) L. W. Gile, Newport, N. H.	99.7	..	89	..
1436	SPRING WHEAT L. W. Gile, Newport, N. H.	A	98	A	90
1437	ALSIKE CLOVER (*Pan American*) L. W. Gile, Newport, N. H.	A	97	S	90
1438	HUNGARIAN MILLET L. W. Gile, Newport, N. H.	S	97	A	80
1439	BARLEY (*Montana*) L. W. Gile, Newport, N. H.	B	98	A	90
1440	TIMOTHY (*Pan American*) L. W. Gile, Newport, N. H.	S	99.5	S	95
1441	JAPANESE MILLET L. W. Gile, Newport, N. H.	A	97	S	90
1442	BARLEY (*State*) L. W. Gile, Newport, N. H.	B	98	A	90
1443	CANADA PEAS Boynton & Ellis, Claremont, N. H.	S	..	98	..

S—Satisfactory.
A—Above.
B—Below.

SEED EXAMINATION, 1918.—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
1444	SANFORD CORN Boynton & Ellis, Claremont, N. H.	S	..	88	..
1445	TIMOTHY (*Pine Tree*) Boynton & Ellis, Claremont, N. H.	S	99.2	B	98
1446	OATS (*White Mountain*) Boynton & Ellis, Claremont, N. H.	S	99	S	97
1447	RED CLOVER (*XX*) Boynton & Ellis, Claremont, N. H.	S	95	B	85
1448	TIMOTHY (*XX*) Boynton & Ellis, Claremont, N. H.	99.7	..	S	81.5
1449	RED TOP (*XX*) Boynton & Ellis, Claremont, N. H.	B	75	B	88
1450	TIMOTHY (*White Mountain*) Boynton & Ellis, Claremont, N. H.	A	97	B	97
1451	JAPANESE MILLET Boynton & Ellis, Claremont, N. H.	S	98	S	92
1452	CORN (*Eureka*) Boynton & Ellis, Claremont, N. H.	S	..	95	..
1453	BUCKWHEAT (*Japanese*) L. W. Gile, Newport, N. H.	A	90	A	85
1454	RED TOP (*Pan American*) L. W. Gile, Newport, N. H.	B	90	B	85
1455	RED CLOVER (*Pan American*) L. W. Gile, Newport, N. H.	A	98	B	90
1456	CUBAN GIANT CORN (*Sutton*) Frank W. Hamler, Charlestown, N. H.	S	..	88	..
1457	CORN (*Leaming*) Frank W. Hamler, Charlestown, N. H.	S	..	72.6	..
1458	CORN (*Southern White*) Frank W. Hamler, Charlestown, N. H.	S	..	68.8	..
1459	ALSIKE CLOVER (*White Mountain*) Frank W. Hamler, Charlestown, N. H.	A	98	S	92
1460	RED CLOVER (*White Mountain*) Frank W. Hamler, Charlestown, N. H.	A	99	S	94
1461	CORN (*Dent*) Frank W. Hamler, Charlestown, N. H.	S	..	95	..
1462	TIMOTHY (*King*) Frank W. Hamler, Charlestown, N. H.	S	99.6	93	..
1465	MEDIUM CLOVER H. B. Sawyer, Sunapee, N. H.	98.3	..	12.5	..
1466	ALSIKE CLOVER H. B. Sawyer, Sunapee, N. H.	97.2	..	10.5	..
1467	JAPANESE MILLET H. B. Sawyer, Sunapee, N. H.	99.5	..	72	..
1468	HUNGARIAN MILLET H. B. Sawyer, Sunapee, N. H.	98.5	..	2.5	..
1469	GOLDEN MILLET H. B. Sawyer, Sunapee, N. H.	98.9	..	0.0	..
1470	OATS (*White Mountain*) H. B. Sawyer, Sunapee, N. H.	S	99	B	97
1471	RED TOP H. B. Sawyer, Sunapee, N. H.	89.8	..	66.25	..
1472	ALFALFA Frost & Pierce, Claremont, N. H.	99.5	..	85	..
1473	MAMMOTH CLOVER Frost & Pierce, Claremont, N. H.	S	96.5	B	90
1474	TIMOTHY (*Liberty*) Frost & Pierce, Claremont, N. H.	S	99	A	86
1475	HUNGARIAN MILLET Frost & Pierce, Claremont, N. H.	A	98.2	B	90
1476	RED TOP Frost & Pierce, Claremont, N. H.	S	88	A	82
1477	FIELD PEAS Frost & Pierce, Claremont, N. H.	S	..	94	..
1478	SPRING WHEAT Frost & Pierce, Claremont, N. H.	A	95	A	90
1479	JAPANESE MILLET (*Stanford*) Frost & Pierce, Claremont, N. H.	A	95.67	B	89
1492	WHEAT Mrs. A. Loring, Laconia, N. H.	99.4	..	92	..
1499	ALSIKE CLOVER (*Pan American*) E. H. Bryant, Tilton, N. H.	A	97	B	90
1500	RED CLOVER (*Queen*) E. H. Bryant, Tilton, N. H.	A	94	B	88

S—Satisfactory.
A—Above.
B—Below.

SEED EXAMINATION, 1918.—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
1501	TIMOTHY (*Pine Tree*) E. H. Bryant, Tilton, N. H.	A	99.05	S	95
1502	JAPANESE MILLET E. H. Bryant, Tilton, N. H.	S	97	B	93.5
1503	MILLET E. H. Bryant, Tilton, N. H.	A	97	B	90
1504	RED COB CORN E. H. Bryant, Tilton, N. H.	S	99	B	92
1505	EUREKA CORN E. H. Bryant, Tilton, N. H.	S	99	B	92
1506	ALSIKE CLOVER Weeks & Smith, Meredith, N. H.	A	97	B	90
1507	TIMOTHY (*60380*) Weeks & Smith, Meredith, N. H.	A	97	B	94
1508	JAPANESE MILLET Weeks & Smith, Meredith, N. H.	A	90	S	92
1509	RED CLOVER Weeks & Smith, Meredith, N. H.	A	98	S	92
1510	MAMMOTH CLOVER Weeks & Smith, Meredith, N. H.	A	97.	B	90
1511	RED TOP Weeks & Smith, Meredith, N. H.	A	90	S	90
1512	RED TOP (*Pan American*) Meredith Grain Company, Meredith, N. H.	A	90	S	90
1513	RED TOP (*Ace*) J. W. Beede Co., Meredith, N. H.	88.8	..	80	..
1514	RED CLOVER (*White Mountain*) J. W. Beede Co., Meredith, N. H.	S	99.5	B	95
1515	TIMOTHY (*Prince*) J. W. Beede Co., Meredith, N. H.	A	97	B	94
1516	CLOVER (*A. R. C.*) J. W. Beede Co., Meredith, N. H.	A	97	B	90
1517	JAPANESE MILLET J. W. Beede Co., Meredith, N. H.	A	96.5	B	93.5
1518	OATS (*White Mountain*) J. W. Beede Co., Meredith, N. H.	S	99	S	97
1519	CLOVER (*Eureka*) C. N. Roberts, Meredith, N. H.	B	99.5	B	95
1520	SPRING VETCH C. N. Roberts, Meredith, N. H.	S	98	A	90
1521	TIMOTHY (*Gold Medal*) C. N. Roberts, Meredith, N. H.	A	91	S	91.5
1522	CORN (*Eureka*) Meredith Grain Company, Meredith, N. H.	S	99	A	90
1523	JAPANESE MILLET Meredith Grain Company, Meredith, N. H.	S	97	S	80
1524	HUNGARIAN MILLET Meredith Grain Company, Meredith, N. H.	A	97	S	80
1525	TIMOTHY (*Pan American*) Meredith Grain Company, Meredith, N. H.	S	99.5	S	95
1526	RED CLOVER (*Pan American*) Meredith Grain Company, Meredith, N. H.	S	98.5	S	90
1536	ALSIKE CLOVER John B. Varick Company, Manchester, N. H.	99	..	82.5	..
1537	JAPANESE MILLET John B. Varick Company, Manchester, N. H.	98.5	..	93.5	..
1538	RED TOP John B. Varick Company, Manchester, N. H.	90.77	..	92.2	..
1539	ALFALFA (*Grimm*) John B. Varick Company, Manchester, N. H.	A	81.5	S	81.5
1540	TIMOTHY John B. Varick Company, Manchester, N. H.	99.7	..	99	..
1541	MEDIUM RED CLOVER John B. Varick Company, Manchester, N. H.	98.7	..	73.5	..
1542	RED SPRING WHEAT (*Marquis*) John B. Varick Company, Manchester, N. H.	99.9	..	98.5	..

S—Satisfactory.
A—Above.
B—Below.

SEED EXAMINATION, 1918.—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
1543	RED TOP ..... T. B. Ambrose, Nashua, N. H.	91.39	..	82.5	..
1544	RED CLOVER ..... T. B. Ambrose, Nashua, N. H.	99.7	..	62.5	..
1545	TIMOTHY ..... T. B. Ambrose, Nashua, N. H.	99.7	..	88	..
1546	TIMOTHY ..... Hill Hardware & Paint Co., Nashua, N. H.	99.4	..	97	..
1547	RED CLOVER ..... Hill Hardware & Paint Co., Nashua, N. H.	98.1	..	88	..
1548	RED CLOVER ..... Hilliard & Kimball, Exeter, N. H.	98.7	..	79.5	..
1549	HEED'S GRASS ..... Hilliard & Kimball, Exeter, N. H.	S	..	96.5	..
1550	RED TOP ..... Hilliard & Kimball, Exeter, N. H.	91.8	..	90.5	..
1551	RED TOP (*Pine Tree*) ..... Hilliard & Kimball, Exeter, N. H.	90.8	..	89	..
1552	RED TOP ..... J. H. Griffin, Newmarket, N. H.	S	90	B	90
1553	TIMOTHY (*Pan American*) ..... J. H. Griffin, Newmarket, N. H.	B	99.5	S	95
1554	TIMOTHY (*Redeemer's Test*) ..... A. L. Turcotte, Newmarket, N. H.	A	98	S	97
1555	HUNGARIAN MILLET (*Redeemer's Test*) ... A. L. Turcotte, Newmarket, N. H.	A	97	B	81
1556	RED CLOVER (*Pan American*) ..... J. H. Griffin, Newmarket, N. H.	S	98	S	92
1557	HUNGARIAN MILLET (*Whit. Eck.*) ..... J. H. Griffin, Newmarket, N. H.	A	98	S	80
1558	FANCY RED TOP ..... A. W. Young, Exeter, N. H.	B	96	S	90
1559	RED CLOVER (*R. Test*) ..... A. L. Turcotte, Newmarket, N. H.	S	98	B	90
1560	RED CLOVER ..... Hilliard & Kimball, Exeter, N. H.	98.6	..	37.5	..
1561	TIMOTHY (*Pine Tree*) ..... A W. Young, Exeter, N. H.	S	99.5	B	95
1562	JAPANESE MILLET (*Breck's*) ..... A. W. Young, Exeter, N. H.	95.5	..	67.5	..
1563	HUNGARIAN MILLET ..... A. W. Young, Exeter, N. H.	99.4	..	81	..
1564	RED CLOVER (*Breck's*) ..... A. W. Young, Exeter, N. H.	98.17	..	66	..
1565	OATS (*Emerson's*) ..... A. W. Young, Exeter, N. H.	S	..	96.5	..
1577	CORN (*Pride of the North*) ..... Frank Smith, Plymouth, N. H.	S	..	91	..
1578	CORN (*Leaming*) ..... J. E. Reed, Ashland, N. H.	S	..	69	..
1579	CORN (*Red Cob*) ..... Holbrook Grocery Company, Woodsville, N. H.	S	..	89	..
1580	SANFORD CORN ..... A. F. Burtt Company, Plymouth, N. H.	S	..	79	..
1581	SANFORD CORN ..... W. B. Brown, Ashland, N. H.	S	..	77	..
1582	CORN (*Leaming*) ..... J. H. Seavey, Dover, N. H.	S	..	80	..
1606	TIMOTHY ..... J. E. Reed & Son, Ashland, N. H.	99.9	..	98.5	..
1607	JAPANESE MILLET ..... Edson & Kinne, Littleton, N. H.	98.2	..	91.5	..
1608	OATS ..... Edson & Kinne, Littleton, N. H.	99.6	..	97	..
1609	TIMOTHY ..... I. C. Richardson, Littleton, N. H.	98.2	..	90	..
1610	ALSIKE CLOVER (*Imperator*) ..... I. C. Richardson, Littleton, N. H.	98.2	..	95	..
1611	BUCKWHEAT ..... Jackson & Durgin, Littleton, N. H.	S	99	S	87
1612	TIMOTHY (*Liberty*) ..... Jackson & Durgin, Littleton, N. H.	S	99.5	S	97.2
1613	SPRING RYE (*White Mountain*) ..... Jackson & Durgin, Littleton, N. H.	S	99	B	91

S—Satisfactory.
A—Above.
B—Below.

SEED EXAMINATION, 1918.—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
1614	BUCKWHEAT ..... J. H. Seavey, Dover, N. H.	100	..	94	..
1615	WHITE CLOVER ..... J. H. Seavey, Dover, N. H.	A	80	66.5	..
1616	RED TOP (*Ace*) ..... J. H. Seavey, Dover, N. H.	91.7	..	84	..
1617	TIMOTHY (*Pine Tree*) ..... J. H. Seavey, Dover, N. H.	99	..	79	..
1618	RED TOP (*Ace*) ..... F. M. Bunker, Dover, N. H.	B	98	89	..
1619	TIMOTHY (*Pine Tree*) ..... F. M. Bunker, Dover, N. H.	S	99.5	93	..
1620	OATS ..... F. M. Bunker, Dover, N. H.	99.7	..	98	..
1621	ALSIKE CLOVER (*Pine Tree*) ..... F. M. Bunker, Dover, N. H.	A	96	97.5	..
1622	RED CLOVER (*Pine Tree*) ..... F. M. Bunker, Dover, N. H.	99.3	..	93.5	..
1623	OATS ..... J. E. Reed & Son, Ashland, N. H.	99.6	..	98.7	..
1624	JAPANESE MILLET ..... J. E. Reed & Son, Ashland, N. H.	97.6	..	88.5	..
1625	OATS ..... Jackson & Durgin, Littleton, N. H.	99.1	..	99	..
1626	ALSIKE CLOVER (*Ace*) ..... F. W. Neal, Dover, N. H.	98.5	..	84.5	..
1627	RED TOP (*Ace*) ..... F. W. Neal, Dover, N. H.	89.1	..	84.7	..
1628	ALSIKE CLOVER (*Ace*) ..... C. L. Jenness, Dover, N. H.	A	94	B	90
1629	JAPANESE MILLET ..... C. L. Jenness, Dover, N. H.	A	80	B	90
1630	CLOVER (*Eureka*) ..... C. L. Jenness, Dover, N. H.	A	99	B	95
1631	RED TOP (*Eureka*) ..... C. L. Jenness, Dover, N. H.	S	96	S	90
1632	TIMOTHY (*Pan American*) ..... C. L. Jenness, Dover, N. H.	S	99	S	95
1633	WHITE CLOVER ..... C. L. Jenness, Dover, N. H.	B	97	B	80
1634	KENTUCKY BLUEGRASS ..... C. L. Jenness, Dover, N. H.	S	77	S	60
1635	RED TOP (*Honor*) ..... W. B. Brown, Ashland, N. H.	89.7	..	85.7	..
1636	RED TOP (*White Mountain*) ..... W. B. Brown, Ashland, N. H.	96.9	..	87	..
1637	RED TOP (*XXX*) ..... O. A. Brown, Ashland, N. H.	87	..	84	..
1638	SPRING WHEAT ..... E. C. Foss, Rochester, N. H.	99.8	..	98.5	..
1639	BARLEY (*6-rowed*) ..... Rand & Dearborn, Laconia, N. H.	99.1	..	99.5	..
1640	BUCKWHEAT ..... Rand & Dearborn, Laconia, N. H.	100	..	95	..
1641	SPRING WHEAT ..... Rand & Dearborn, Laconia, N. H.	S	99.66	A	91
1642	BARLEY (*Monadnock*) ..... D. H. Little Grain Co., Plymouth, N. H.	99.4	..	97.5	..
1643	BARLEY (*White Mountain*) ..... J. S. Morrill, Laconia, N. H.	A	98.6	S	95
1644	BUCKWHEAT (*Japanese*) ..... J. S. Morrill, Laconia, N. H.	A	98	S	90
1645	BARLEY ..... J. S. Morrill, Laconia, N. H.	A	98	A	90
1646	BUCKWHEAT (*White Mountain*) ..... H. C. Sanborn, Laconia, N. H.	B	98.5	B	98
1647	TIMOTHY (*White Mountain*) ..... H. C. Sanborn, Laconia, N. H.	99.8	..	97.5	..
1648	TIMOTHY (*Pine Tree*) ..... H. C. Sanborn, Laconia, N. H.	S	99.5	98	..
1649	CLOVER (*XXX*) ..... H. C. Sanborn, Laconia, N. H.	A	97	S	90
1650	RED CLOVER (*Globe*) ..... F. W. Neal, Dover, N. H.	98	..	99	..

S—Satisfactory.
A—Above.
B—Below.

SEED EXAMINATION, 1918.—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
1651	SPRING RYE ..... J. E. Reed & Son, Ashland, N. H.	B	99	S	90
1652	HUNGARIAN MILLET ..... C. L. Jenness, Dover, N. H.	A	98	S	75
1653	ALSIKE CLOVER (*Ace*) ..... J. H. Seavey, Dover, N. H.	98	..	99	..
1654	RED CLOVER (*Kaiser*) ..... J. H. Seavey, Dover, N. H.	A	95	S	85
1655	RED CLOVER ..... Rochester Grocery Company, Rochester, N. H.	99	..	55.5	..
1656	SPRING WHEAT ..... J. H. Seavey, Dover, N. H.	S	98.5	S	95
1657	TIMOTHY (*Bison*) ..... D. H. Little Grain Company, Plymouth, N. H.	A	98	S	93
1658	OATS (*Elwood*) ..... D. H. Little Grain Company, Plymouth, N. H.	99.8	..	97	..
1659	HUNGARIAN MILLET (*XX*) ..... Edson & Kinne, Littleton, N. H.	A	97	63.5	..
1660	RED CLOVER (*Imperator*) ..... Edson & Kinne, Littleton, N. H.	96.2	..	85	..
1667	SPRING WHEAT ..... Stratton & Co., Concord, N. H.	99.2	..	95.5	..
1668	OATS ..... Leavitt, Gould & Hurburt, Colebrook, N. H.	99.1	..	99	..
1669	SPRING WHEAT ..... P. L. Gleason, Colebrook, N. H.	S	96	97	..
1670	TIMOTHY (*XX*) ..... Leavitt, Gould & Hurburt, Colebrook, N. H.	A	98	B	92
1671	ALSIKE CLOVER (*Ace*) ..... Leavitt, Gould & Hurburt, Colebrook, N. H.	A	95	B	90
1672	JAPANESE MILLET (*Fancy*) ..... P. L. Gleason, Colebrook, N. H.	S	98	73	..
1673	TIMOTHY (*King*) ..... P. L. Gleason, Colebrook, N. H.	S	99.6	94.5	..
1674	GRASS MIXTURE ..... P. L. Gleason, Colebrook, N. H.	..	95	90	..
1675	JAPANESE MILLET (*Purity*) ..... Leavitt, Gould & Hurburt, Colebrook, N. H.	A	98	91	..
1676	TIMOTHY (*Dickerson*) ..... P. L. Gleason, Colebrook, N. H.	S	99.5	99	..
1677	TIMOTHY (*Pine Tree*) ..... Leavitt, Gould & Hurburt, Colebrook, N. H.	S	99.5	94.5	..
1678	RED TOP ..... L. O. Moulton, Ossipee, N. H.	88.9	..	80.5	..
1679	TIMOTHY ..... L. O. Moulton, Ossipee, N. H.	98.4	..	86	..
1680	SPRING WHEAT ..... L. O. Moulton, Ossipee, N. H.	..	..	97.5	..
1681	RED CLOVER ..... L. O. Moulton, Ossipee, N. H.	98.7	..	90.5	..
1682	OATS (*Welcome*) ..... Avers & Jenkins, Rochester, N. H.	99.3	..	78	..
1683	BARLEY ..... Avers & Jenkins, Rochester, N. H.	89.5	..	95.5	..
1684	SPRING WHEAT (*White Mountain*) ..... H. C. Sanborn, Laconia, N. H.	S	99.75	S	95
1685	TIMOTHY (*White Mountain*) ..... W. B. Brown, Ashland, N. H.	S	99.7	B	97
1686	CLOVER (*XXX*) ..... O. A. Brown, Ashland, N. H.	A	97	S	90
1687	JAPANESE MILLET ..... Holbrook Grocery Co., Woodsville, N. H.	S	90	A	90
1688	ALSIKE CLOVER (*White Mountain*) ..... Frank G. Smith, Plymouth, N. H.	A	98	S	92
1689	WHITE CLOVER (*Prime*) ..... Frank G. Smith, Plymouth, N. H.	88.2	..	81.5	..

S—Satisfactory.
A—Above.
B—Below.

SEED EXAMINATION, 1918.—*Concluded.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
1690	TIMOTHY (*Honor*)	S	99.7	A	90
	W. B. Brown, Ashland, N. H.				
1691	TIMOTHY	82.2	..	93.5	..
	F. W. Bean, North Conway, N. H.				
1692	RED TOP	85.1	..	83.5	..
	F. W. Bean, North Conway, N. H.				
1693	ALSIKE CLOVER	98	..	96.5	..
	F. W. Bean, North Conway, N. H.				
1694	HUNGARIAN MILLET	87	..	81	..
	F. W. Bean, North Conway, N. H.				
1695	RED TOP (*White Mountain*)	A	90	B	95
	J. W. Garwin & Co., Sanbornville, N. H.				
1696	OATS (*White Mountain*)	S	99	S	95
	J. W. Garwin & Co., Sanbornville, N. H.				
1697	RED CLOVER	S	99	68	..
	Mark B. Blaisdell, Wolfeboro, N. H.				
1698	ALSIKE CLOVER	99.7	..	87.5	..
	C. E. Hodgdon, North Conway, N. H.				
1699	HUNGARIAN MILLET	97.5	..	84.5	..
	Mark B. Blaisdell, Wolfeboro, N. H.				
1700	RED TOP	92.6	..	79.7	..
	Mark B. Blaisdell, Wolfeboro, N. H.				
1701	WHEAT (*Marquis*)	S	99.6	S	95
	Holbrook Grocery Co., Woodsville, N. H.				
1702	BARLEY (*White Mountain*)	A	99	S	95
	Holbrook Grocery Co., Woodsville, N. H.				
1703	BUCKWHEAT (*White Mountain*)	A	98.5	S	95
	Holbrook Grocery Co., Woodsville, N. H.				
1704	TIMOTHY (*White Mountain*)	S	99.7	S	97
	Holbrook Grocery Co., Woodsville, N. H.				
1705	RED CLOVER (*White Mountain*)	S	99.5	S	94
	Holbrook Grocery Co., Woodsville, N. H.				
1706	SPRING WHEAT	A	98	A	90
	J. E. Reed & Son, Ashland, N. H.				
1708	BUCKWHEAT	95.6	..	95	..
	Ayers & Jenkins, Rochester, N. H.				
1709	TIMOTHY	S	99	S	97.7
	Mark B. Blaisdell, Wolfeboro, N. H.				
1710	HUNGARIAN MILLET	99.9	..	98	..
	C. E. Hodgdon, North Conway, N. H.				
1711	RED CLOVER	95.16	..	82	..
	F. W. Bean, North Conway, N. H.				
1712	RED CLOVER (*White Mountain*)	S	99.5	S	95
	J. W. Garwin & Co., Sanbornville, N. H.				
1713	TIMOTHY (*White Mountain*)	S	99.7	S	95
	J. W. Garwin & Co., Sanbornville, N. H.				
1714	RED TOP (*Purity*)	92.3	..	88.7	..
	Sewall Hobson, Conway, N. H.				
1715	RED CLOVER (*Purity*)	98.4	..	B	98
	Sewall Hobson, Conway, N. H.				
1716	TIMOTHY (*Pine Tree*)	A	99	93	..
	L. C. Prescott, Conway, N. H.				
1717	RED CLOVER (*No. Conway*)	99.9	..	83.5	..
	C. E. Hodgdon, North Conway, N. H.				
1718	RED TOP	92	..	79.2	..
	C. E. Hodgdon, North Conway, N. H.				
1738	JAPANESE MILLET	97.5	..	92	..
	F. W. Bean, North Conway, N. H.				

S—Satisfactory.
A—Above.
B—Below.

TABLE SHOWING RESULTS OF TESTS AND EXAMINATION OF SAMPLES OF SEEDS SUBMITTED BY THE COMMISSIONER OF AGRICULTURE FROM JULY 1, 1917, TO JULY 1, 1918.

Kind of Seed.	Number.	Purity.				Germination.			
		Highest per cent.	Lowest per cent.	Average per cent.	Standard.	Highest per cent.	Lowest per cent.	Average per cent.	Standard.
Alfalfa	4	100.0	99.4	99.7	98	100.0	81.5	87.4	85-90
Alsike	20	99.7	95.5	98.6	95	99.0	10.5	80.2	75-80
Barley	11	100.0	85.3	96.0	99	99.5	85.0	95.6	90-95
Buckwheat	11	100.0	95.6	98.9	99	98.0	82.0	92.3	90-95
Corn	24	100.0	100.0	100.0	99	97.0	30.0	77.9	85-90
Field Peas	4	100.0	100.0	100.0	99	98.0	87.0	92.7	93-98
Millet	41	100.0	87.0	97.9	99	98.0	0.0	76.5	85-90
Oats	14	99.8	98.6	99.3	99	99.0	78.0	95.3	90-95
Red Clover	44	99.9	95.2	98.4	98	99.0	12.5	79.3	85-90
Red Top	33	96.9	54.7	90.2	95	93.5	66.2	84.7	75-80
Timothy	50	99.9	82.2	99.0	98	99.0	6.0	89.7	85-90
Wheat	14	100.0	99.2	99.7	99	98.5	92.0	96.7	90-95
White Clover	3	95.0	88.2	92.2	95	81.5	66.5	73.8	75-80
Miscellaneous	7								
Total	280								

SUMMARY.

From the tables on the preceding pages, it will be noted that 171 of the 280 samples collected were guaranteed for purity and 156 for germination. In other words only 61 per cent. of the seed represented by the samples was sold according to the law as regards purity, and only 56 per cent. as regards germination. These percentages are much lower than last year, when they stood at 87 and 81 per cent., respectively.

Of the total 171 samples which were guaranted for purity, 162 of them, or 95 per cent., were found to be up to or above the guarantee.

Of the 156 samples which were guaranteed for germination, 98 of them, or 63 per cent., were found up to or above the guarantee. This is a much poorer showing than last year.

Among the seeds tested this year, alfalfa, alsike clover, corn, peas, oats, red clover, timothy and wheat were on the average above the standard per cent. of purity; while barley, buckwheat, millet, red top and white clover were below the standard per cent. As regards germination, the average per cent. was up to standard for all kinds of seed except corn, millet, peas, red clover and white clover. The low germination of the corn and peas was due to the very early freezing weather throughout the country last fall. The low quality of millet and of some of the clovers was undoubtedly due to the fact that they were old seeds carried over.

AMENDED TEXT OF NEW HAMPSHIRE SEED LAW.

STATE OF NEW HAMPSHIRE.

IN THE YEAR OF OUR LORD ONE THOUSAND NINE HUNDRED AND NINE.

HOUSE BILL . . . . . No. 396

AN ACT

To Regulate the Sale of Agricultural Seeds.

Be it enacted by the Senate and House of Representatives in General Court convened:

SECTION 1. Every lot of agricultural seeds, including seeds of cereals, grasses, forage plants, vegetables, garden plants, and white pine trees, but not including those of other trees, shrubs, and ornamental plants, which is sold, offered, or exposed for sale for seed in bulk or package of one pound or more, within this state, shall be accompanied by a plainly written or printed guarantee, stating first its percentage of purity from foreign seeds and other matter, and second, its percentage of vitality.

SECT. 2. Sellers or dealers in seeds may base their guarantees upon tests or analyses conducted by themselves, their agents, or by the commissioner of agriculture or his agents, *provided* that such tests or analyses shall be made in such a manner and under such conditions as the said commissioner may prescribe.

SECT. 3. The results of all tests or analyses of seeds made by the said commissioner, together with the names and addresses of the persons from whom the samples of seed were obtained, shall be published in reports of bulletins by the commissioner of agriculture or the New Hampshire College experiment station, as the governor and council may determine. The report may contain equitable standards of purity and vitality, together with such information concerning agricultural seeds as may be of public benefit.

SECT. 4. Whoever sells, offers or exposes for sale or for distribution, within this state, any agricultural seeds heretofore named in this act, without complying with the requirements of sections one and two, or whoever, with intention to deceive, wrongly marks or labels any lot of agricultural seeds, including the seeds of cereals, grasses, forage plants, vegetables, garden plants, and white pine trees, but not including those of other trees, shrubs and ornamental plants, as pertains to their percentage of purity and vitality, shall be punished by a fine not exceeding one hundred dollars for the first offense, and not exceeding two hundred dollars for each subsequent offense.

SECT. 5. The provisions of the four preceding sections shall not apply to any person growing, selling, offering or exposing for sale cereals and other agricultural seeds for food.

SECT. 6. The commissioner of agriculture shall diligently enforce the provisions of sections one and four of this act, and in his discretion prosecute offenses against the same.

LABELING.

The law does not apply to the common five- and ten-cent packages of garden and flower seeds. Only seeds sold in bulk or in packages of one pound or more are subject to the provisions of the law and are required to be accompanied by a guarantee stating their percentage of purity and vitality.

The guarantee or label may be of any form desired by the seller of the seeds, as a tag, sticker or direct brand upon the container. It must, however, be plainly written or printed, and placed distinctly visible to the purchaser. Each dealer will provide his own labels.

TAKING OF SAMPLES.

To secure a fair average sample of a lot or bulk, take small quantities from all of the bags or from different parts of any particular bulk. Mix thoroughly and take out the sample to be inspected. When the seeds are in bags or large bins, the use of a grain sampler is most convenient, since this will insure getting seeds from the top, middle and bottom alike. Since the report of the analysis is based upon the nature of the sample inspected, it is important that the sample be carefully taken.

SIZE AND AMOUNTS OF SAMPLES.

The size and amount of the samples necessary for a test will depend upon the size and weight of the seeds. About one-half ounce or a tablespoonful of the smaller grass and vegetable seeds, like alsike and white clover, red top, lettuce, onions, radish, turnip, etc.; about one ounce or two tablespoonfuls of the larger seeds, like timothy, millet, red clover, alfalfa, rape, etc.; and about four ounces or a small cupful of the cereal grains or vegetable seeds, like oats, barley, corn, peas, beans, etc., should be sent.

TESTS AND EXAMINATIONS.

Section 2 of the law states the provisions under which the tests and analyses shall be made. The sellers or dealers who desire to base their guarantees upon tests made by themselves or their agents must first secure the approval of the Commissioner of Agriculture of the methods to be used in making the tests, and of the person who is to conduct them.

Although the law makes no provision for the expenses of the seed tests, the Department of Agriculture has arranged with the Experiment Station to have the tests made *free of charge* to all dealers and farmers resident in the state.

SENDING OF SAMPLES.

Samples sent to the Experiment Station for testing should be enclosed in a strong paper envelope and securely fastened. They should not be sent in bottles or glass jars, owing to the danger of breakage. When a number of samples are to be sent they should be put up securely in a single package and forwarded

either by parcel post or by express. Each sample sent in should be marked as follows:

Name and address of sender.

Date of sending. Kind of seed.

Brand name (if any), and number of package.

Purity or germination test desired (one or both).

Write a letter stating the number and kind of samples sent so that their receipt may be promptly acknowledged.

Address all samples and communications regarding the same to F. W. Taylor, Experiment Station, Durham, N. H.